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EXAMINER	
BADIO, BARBARA P	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/674,892	REED ET AL.	
	Examiner	Art Unit	
	Barbara P. Badio, Ph.D.	1612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *67-96* is/are pending in the application.

4a) Of the above claim(s) *69-76 and 83-86* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *67,68,77-82 and 87-96* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Nonfinal Office Action on the Merits

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Amendment

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Election/Restrictions

3. For clarification of the record, Group I and Group II are as follow:

Group I, claims 67, 69, 71, 73, 75, 77, 79, 81, 83, 85-87, 89 and 96, drawn to a method of inhibiting steroid sulphatase activity, classified in claim 514, subclass 169+.

Group II, claims 68, 70, 72, 74, 76, 78, 80, 82, 84, 88 and 90-95, drawn to a method of treating endocrine-dependent cancer, classified in class 514, subclass 169+.

4. Applicant's election with traverse of Group I and the species of 2-methoxy-EMATE in the reply filed on May 14, 2008 is acknowledged. **The examiner has decided to withdraw the restriction requirement while maintaining the election of species.**

5. Applicant traversal of the election of species is on the ground(s) that the species are related in that they are all related to steroid sulphatase inhibitors of formula IV and any search of the elected species, 2-methoxy-EMATE, would encompass references for compounds of Group I . Therefore, it would not place an unnecessary burden on the Examiner to search and examine the compounds of formula IV. This is not found persuasive because as stated by applicant, according to MPEP § 803, if the generic claim includes a sufficiently few species that a search and examination of all of the species at one time would not impose a serious burden on the examiner, examination of all the members of the Markush group should be done. However, in the instant case, the Markush claims recite a plurality of "alternatively usable substances or members" which are unrelated and diverse that a prior art reference anticipating the claim with respect to one member would not render the claim obvious under 35 USC 103 with respect to the other member(s) (see MPEP § 803.02).

The examiner notes that the search of the claimed invention will be done in accordance to MPEP § 803.02.

The requirement is still deemed proper and is therefore made **FINAL**.

6. Based on applicant's election of 2-methoxy-EMATE, claims 69-76 and 83-86 stand withdrawn further consideration as being drawn to a nonelected species. Claims 67, 68, 77-82, 87-96 will be examined to the extent they read on the elected species and obvious variants thereof, i.e., 2-alkoxy substituted derivatives of compounds of formula IV.

Note: Although claims 75 and 76 recite a methoxy group, they are dependent on claims that stand withdrawn because said parent claims do not encompass a methoxy group, i.e., they lack recitation of R_1 as an alkoxy group.

Withdrawal of rejections

7. All rejections of claims 1-3, 5-7, 9-32 and 65 have been made moot by the cancellation of the instant claims.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 68, 78, 80, 82, 88, 90, 91, 93, 94 rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for treating breast cancer, does not reasonably provide enablement for all endocrine-dependent cancers. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

The factors to be considered in determining whether a disclosure meets the enablement requirement of 35 USC 112, first paragraph, have been described in *In re Wands*, 8 USPQ2d 1400 (Fed. Cir. 1988). Among these factors are (1) the nature of the invention, (2) the breadth of the claims, (3) the state of the prior art, (4) the

predictability or unpredictability of the art, (5) the amount of guidance or direction presented, (6) the presence or absence of working examples, (7) the relative skill in the art and (8) the quantity of experimentation necessary. When the above factors are taken into consideration, the examiner's position is that one skilled in the art could not perform the invention commensurate in scope with the instant claim without undue experimentation.

Briefly, the instant claims are drawn to a method of treating endocrine-dependent cancer by administering the claimed compound(s). The present specification provides data showing the anti-proliferative activity of the claimed compound in the breast cancer cells but it lacks data relating to the use of the claimed compound in other forms of cancer which may be "endocrine-dependent". The present specification also lacks description of "endocrine-dependent cancer" as well as guidance as to how one have ordinary skill in the art would make said determination. Thus, one having ordinary skill in the art would first have to determine which cancers are "endocrine-dependent" by reviewing the prior art for definition of said cancers or for method(s) that would be useful in making said determination. Next, he would have to perform experiments to determine the effectiveness of the claimed compounds in cancerous cells other than breast cancer cells before determining the efficacy of the claimed compounds in vivo in the treatment of other forms of cancers that would be "endocrine-dependent". Because of the complexity of the human body and the differences in the underlining cause(s) of the numerous known cancers and the lack of guidance in the present specification as to which cancer(s) are "endocrine-dependent", the quantity of experimentation necessary

to practice the claimed invention commensurate with the scope of the instant claims would be undue.

10. Claims 68, 78, 80, 82, 88 and 90-96 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The instant claims recites treating "endocrine-dependent cancer" and defines "breast, ovarian, endometrial and prostate cancers" as said endocrine-dependent cancer. The instant specification sets forth breast, endometrium and prostate as endocrine-dependent tissues (see sections 0004, 0141 and 0419) and defines breast cancer as "oestrone dependent tumor" (see section 0006). However, it lacks definition of tumors that are endocrine-dependent. Thus, the claimed subject matter was not described in the present specification in such a way as to reasonably convey to the skilled artisan that applicant, at the time the application was filed, had possession of the claimed invention. Additionally, the present specification does not define the "ovary" as an endocrine-dependent tissues.

11. Claims 67, 77, 79, 81, 87, 89 and 93-95 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to

reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The instant claims recite “a non-oestrogenic sulphamate compound suitable for use as an inhibitor of oestrone sulphatase to a patient in need of inhibition of steroid sulphatase activity by a compound *lacking* oestrogenic activity”. The instant specification defines “non-oestrogenic compound” as a compound exhibiting no or substantially no oestrogenic activity. However, it does not differentiate between the instantly claimed compounds. Therefore, the claimed subject matter was not described in the specification in such a way as to reasonably convey to the skilled artisan in the art that applicant, at the time the application was filed, had possession of the claimed invention.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. Claims 68, 78, 80, 82, 88, 68, 93 and 96 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The instant claims are indefinite for the following reasons:

(a) Claims 68 and 93 recite treatment of "endocrine-dependent cancer". The present specification lacks definition of cancers that are encompassed by the above-mentioned phrase. Thus, the skilled artisan in the art would be unable to determine the metes and bound of the instant claims.

(b) Claim 88 recites a method "according to any one of claims 68". Did applicant intend other claims? Correction is required.

(c) Claims 93 and 96 lack a period and, thus, it is unclear where the claimed invention end.

Double Patenting

14. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 7-10 of U.S. Patent No. 5,616,574. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of inhibiting steroid sulphatase activity or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds is rendered obvious by the recitation of "substituted oestrone" and disclosure of "2-methoxy-oestrone" by the cited patent (see claims 2 and 8; col. 3, line 35 of the cited patent) and (b) the methods recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds inhibit steroid sulphatase activity and are useful in treating estrogen dependent tumors such as breast cancer (see col. 1, line 53 – col. 2, line 3 of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compound, including the

2-methoxy derivative thereof, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy derivative taught by the reference would inherently lack oestrogenic activity.

15. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 5,5,830,886. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds is rendered obvious by the recitation of "substituted oestrone" and disclosure of "2-methoxy-oestrone" by the cited patent (see claim 7; col. 3, lines 33-35 of the cited patent) and (b) the treatment of breast cancer recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds are useful in treating estrogen dependent tumors such as breast cancer (see col. 1, line 53 – col. 2, line 3 of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compound, including the 2-methoxy derivative thereof, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy derivative taught by the reference would inherently lack oestrogenic activity.

16. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 6,011,024. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds is rendered obvious by the disclosure of "2-methoxy-EMATE" by the cited patent (see col. 56, Table 1, compound 6 of the cited patent) and (b) the treatment of breast cancer recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds are useful in treating estrogen dependent tumors such as breast cancer (see col. 2, lines 17-34 of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

17. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,159,960. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds is rendered obvious by the disclosure of "2-methoxy-EMATE" by the cited patent (see col. 57, Table 1, compound 2 of the cited patent) and (b) the treatment of breast cancer recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds are useful in treating estrogen dependent tumors such as breast cancer (see col. 2, lines 28-48 of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

18. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,187,766. Although the conflicting claims are not identical, they are not

patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of inhibiting steroid sulphatase activity or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds is rendered obvious by the disclosure of "2-methoxy-EMATE" by the cited patent (see col. 57, Table 1, compound 5 of the cited patent) and (b) the methods recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds inhibit steroid sulphatase activity and are useful in treating estrogen dependent tumors such as breast cancer (see col. 2, lines 19-37 of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

19. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 and 8-13 of U.S. Patent No. 6,476,011. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of

the cited patent in the recitation of (a) a method of inhibiting steroid sulphatase activity or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds is rendered anticipated by the recitation of the 2-methoxy-estrone as a ring system of the steroid nucleus by the cited patent (see claim 2 and col. 52, Table 1, compound 5 of the cited patent) and (b) the methods recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds inhibit steroid sulphatase activity and are useful in treating estrogen dependent tumors such as breast cancer (see col. 2, lines 23-40 of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

20. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 and 15-17 of U.S. Patent No. 6,642,397. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of inhibiting steroid sulphatase activity

or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds is rendered obvious by the disclosure of "2-methoxy-EMATE" by the cited patent (see col. 47, Table 1, compound 1 of the cited patent) and (b) the methods recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds inhibit steroid sulphatase activity and are useful in treating estrogen dependent tumors such as breast cancer (see col. 2, lines 24-41 of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

21. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 and 10-14 of U.S. Patent No. 6,676,934. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of inhibiting steroid sulphatase activity or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed

compounds is rendered anticipated by recitation of "2-methoxy-EMATE" by the cited patent (see claim 14 of the cited patent); (b) the method of inhibiting steroid sulphatase activity is rendered anticipated by the recitation of said property by the claims of the cited patent (see claim 1 of the cited patent) and (c) the method of treating breast cancer recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds are useful in treating tumors such as breast cancer (see col. 2, lines 55-57 of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

22. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 and 20 of U.S. Patent No. 6,677,325. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of inhibiting steroid sulphatase activity or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed

compounds is rendered obvious by the recitation of "2-methoxy-EMATE" by the cited patent (see col. 52, Table 1, compound 4 and claim 1 of the cited patent); (b) the method of inhibiting steroid sulphatase activity is rendered anticipated by the recitation of said property by the claims of the cited patent (see claim 1 of the cited patent) and (c) the method of treating breast cancer recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds are useful in treating tumors such as breast cancer (see col. 2, lines 24-41 of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

23. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-48 of U.S. Patent No. 6,903,084. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds is rendered anticipated by the recitation of the 2-

methoxy-estrone as a ring system of the steroid nucleus by the cited patent (see claim 1 and col. 49, Table 1, compound 7 of the cited patent); (b) the method of inhibiting steroid sulphatase activity is rendered anticipated by the recitation of said property by the claims of the cited patent (see claim 1 of the cited patent) and (c) the method of treating breast cancer recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds are useful in treating tumors such as breast cancer (see col. 2, lines 24-42 of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

24. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 9-27 of U.S. Patent No. 7,067,503. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of inhibiting steroid sulphatase activity or a method treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed

compounds is rendered obvious by the disclosure of "2-methoxy-EMATE" by the cited patent (see col. 47/48 of the cited patent) and (b) the methods recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds inhibit steroid sulphatase activity and are useful in treating tumors such as breast cancer (see col. 2, lines 57-60 and col. 12, lines 13-14 of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

25. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4, 6, 7, 9-24 and 26-31of U.S. Patent No. 7,078,395. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of inhibiting steroid sulphatase activity or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds is rendered anticipated by the recitation of "2-methoxy-EMATE" by the cited patent (see claims 18 and 19 of the cited patent) and (b) the

methods recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds are useful in treating breast cancer (see col. 16, lines 23-53; Figure 2 of the cited patent) and, thus, would inherently inhibit steroid sulphatase activity. Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity (see also claim 31 of the cited patent).

26. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 7,098,199. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of inhibiting steroid sulphatase activity or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds is rendered obvious by the disclosure of "2-methoxy-EMATE" by the cited patent (see col. 56, Table 1, compound 7 of the cited patent; (b) the method of inhibiting

steroid sulphatase activity is rendered anticipated by the recitation of said property by the claims of the cited patent (see claim 1 of the cited patent) and (c) the method of treating breast cancer recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds are useful in treating tumors such as breast cancer (see col. 2, lines 25-41 of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

27. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 8-11 of U.S. Patent No. 7,119,081. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted steroid sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of inhibiting steroid sulphatase activity or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds is rendered obvious by the disclosure of "2-methoxy-E2bisMATE" by the cited patent (see claim 11 of the cited patent) and (b) the methods recited by the instant

claims are rendered obvious by the disclosure of the cited patent that the prior art compounds inhibit steroid sulphatase activity and are useful in treating tumors such as breast cancer (see col. 2, lines 56-59; col. 9, lines 30-35; cols. 68-70, Tables of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-E2bisMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-E2bisMATE taught by the reference would inherently lack oestrogenic activity.

28. Claims 67, 68, 77-82 and 87-96 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of U.S. Patent No. 7,211,246. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited patent in the recitation of (a) a method of inhibiting steroid sulphatase activity or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds is rendered anticipated by the recitation of "2-methoxy-EMATE" by the cited patent (see claim 6 of the cited patent); (b) the method of inhibiting steroid sulphatase activity is rendered anticipated by the recitation of said property by the claims of the cited patent (see claim 10 of the cited patent) and (c) the method of treating breast

cancer recited by the instant claims are rendered obvious by the disclosure of the cited patent that the prior art compounds are useful in treating tumors such as breast cancer (see col. 2, lines 53-55 of the cited patent). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

29. Claims 67, 68, 77-82 and 87-96 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9, 13-16, 18-51 and 64-65 of copending Application No. 11/233,945. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted steroid sulphamate. The instant claims differ from the claims of the cited copending application in the recitation of (a) a method of inhibiting steroid sulphatase activity or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds are rendered obvious by the disclosure of “2-methoxy oestrone” (see section 0117 of the cited copending application); (b) the method of inhibiting steroid sulphatase activity is rendered anticipated by the recitation of said property by the claims of the cited patent

(see claim 2 and section 0649 of the cited copending application) and (c) the method of treating breast cancer recited by the instant claims are rendered obvious by the disclosure of the cited copending application that the prior art compounds are useful in treating tumors such as breast cancer (see sections 0650 and 0651 of the cited copending application). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

30. Claims 67, 68, 77-82 and 87-96 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 43-45, 49-53 of copending Application No. 11/234,868. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted steroid sulphamate. The instant claims differ from the claims of the cited copending application in the recitation of (a) a method of inhibiting steroid sulphatase activity or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However,

(a) the scope of the instantly claimed compounds are rendered obvious by the disclosure of "2-methoxy oestrone" (see section 0233 of the cited copending application) and (b) the method of treating breast cancer recited by the instant claims are rendered obvious by the disclosure of the cited copending application that the prior art compounds are useful in treating tumors such as breast cancer (see section 0207 of the cited copending application) and, thus, the prior art compounds would inherently inhibit steroid sulphatase activity. Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

31. Claims 67, 68, 77-82 and 87-96 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 26-29, 31, 32, 34-49 and 51-56 of copending Application No. 11/244,416. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited copending application in the

recitation of (a) a method of inhibiting steroid sulphatase activity or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds are rendered anticipated by the recitation of "2-methoxy EMATE" (see claims 43 and 44 of the cited copending application) and (b) the method of treating breast cancer recited by the instant claims are rendered anticipated by recitation of said cancer by the cited copending application (see claims 53-55 of the cited copending application) and, thus, the prior art compound would inherently inhibit steroid sulphatase activity. Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity (see also claim 56 of the cited copending application).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

32. Claims 67, 68, 77-82 and 87-96 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 19-21, 32, 56-59 and 62 of copending Application No. 11/368,367. Although the conflicting claims are not identical, they are not patentably distinct from each other

because both sets of claims encompass 2-methoxy substituted steroid sulphamate. The instant claims differ from the claims of the cited copending application in the recitation of (a) a method of inhibiting steroid sulphatase activity or a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds are rendered anticipated by the recitation of "2-methoxy E2bisMATE" (see claim 56 of the cited copending application); (b) the method of inhibiting steroid sulphatase activity is rendered obvious by the disclosure that the prior art compounds have said activity (see page 15, lines 3-4 of the cited copending application) and (b) the method of treating breast cancer recited by the instant claims are rendered anticipated by recitation of said cancer by the cited copending application (see claim 59 of the cited copending application). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-E2bisMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-E2bisMATE taught by the reference would inherently lack oestrogenic activity.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

33. Claims 67, 68, 77-82 and 87-96 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5

of copending Application No. 11/406,079. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass 2-methoxy substituted oestrone sulphamate. The instant claims differ from the claims of the cited copending application in the recitation of (a) a method of treating endocrine-dependent cancer such as breast cancer and (b) the scope of the claimed compounds. However, (a) the scope of the instantly claimed compounds are rendered obvious by the disclosure of "2-methoxy EMATE" (see section 0434, Table 1, compound 7 of the cited copending application) and (b) the method of treating breast cancer recited by the instant claims are rendered obvious by the disclosure of said cancer (see section 0105 of the cited copending application). Therefore, it would have been obvious to the skilled artisan to utilize any of the prior art compounds, including the 2-methoxy-EMATE, with the reasonable expectation that the compound would be useful as taught by the cited patent.

The recitation by the instant claims that the compounds lack oestrogenic activity is noted. However, similar compounds would have similar properties and, thus, the 2-methoxy-EMATE taught by the reference would inherently lack oestrogenic activity.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

34. Claims 67, 68, 77-82 and 87-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al. (WO 93/05064).

Reed et al. teaches steroid sulphatase inhibitors such as oestrone-3-sulphamate and oestrone-3-N,N-dimethylsulphamate and their use in the treatment of estrogen dependent cancers such as breast cancer (see the entire article, especially Abstract; page 2, Objects of the Invention; page 4, line 6 - page 5, line 20; Examples 1-8; claims 1-16).

The instant claims differ from the reference by reciting a more limited genus than the reference, i.e., 2-methoxy-substituted steroid sulphamate. Reed teaches the utilization of substituted oestrones such as 2-methoxy-estrone (see page 4, line 35). Therefore, it would have been obvious to the skilled artisan in the art at the time of the present invention to utilize any of the species of the prior art, including 2-methoxy-estrone sulphamate, with the reasonable expectation that the compound would be useful in the inhibition of steroid sulphatase and in the treatment of breast cancer as taught by Reed et al.

Other Matters

35. The examiner notes the rejection stated in paragraph #34 was previously withdrawn. After further review of applicant's argument, the examiner's position is that the reference makes obvious the utilization of 2-methoxy-EMATE as recited by the instant claims.

Briefly, applicant argues that A-ring modified compounds of present invention are vastly superior to the previous steroid sulphatase inhibitors. According to applicant,

there is no motivation to select the compounds of present invention from the numerous compounds of prior art genus.

However, the finding that one of the prior art compound is more efficacious as compared to other is not unexpected or unobvious since the skilled artisan in the art would reasonably expect differences in the potency of the prior art compounds. The issue is whether the claimed invention, including the claimed compounds, is obvious based on the teachings of the cited reference. As stated above in #34, Reed teaches the ABCD ring of formula (II) can be 2-methoxy-estrone and, thus, anticipates the use of the presently claimed compound.

Telephone Inquiry

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara P. Badio, Ph.D. whose telephone number is 571-272-0609. The examiner can normally be reached on M-F from 6:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frederick Krass can be reached on 571-272-0580. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Barbara P. Badio, Ph.D./
Primary Examiner, Art Unit 1612